

REMARKS

The pending claims stand rejected as unpatentable over U.S. Patent Application 2001/0019648 (Nobuhara et al.) in view of U.S. Patent No. 6,273,620 (Kato et al.). The rejected claims recited that a Bragg diffraction grating was formed in the protruding part of the optical fiber on the mounting surface after securing the optical fiber. However, the Office action indicated that, as the claims were directed to an optical module rather than a method of manufacturing the optical module, features regarding the process could not be relied upon to distinguish the subject matter from the cited references.

For the purpose of clarification, the claims have been re-written as method claims directed to a method of manufacturing the specified optical module. The method includes forming a Bragg diffraction grating in the protruding part of the optical fiber on the mounting surface after securing the optical fiber. Applicants note that that feature was recited in original claim 2 (now canceled). As explained in the Specification:

[T]he Bragg diffraction grating 13 can be produced easily in the protruding part of the optical fiber 3 on the mounting surface 9 after the optical fiber 3 is secured to the ferrule 1. Consequently, it is possible to prevent occurrence of a change in the reflective characteristic of the Bragg diffraction grating 13 formed in the optical fiber 3.

(Page 18, line 19 – page 19, line 1) Thus, the claimed subject matter can help address changes (e.g., alleviate stresses) that might otherwise occur in the grating characteristic if the Bragg diffraction grating were formed prior to securing the fiber.

In view of the amendments and the remarks below, applicant respectfully requests reconsideration and withdrawal of the rejections.

The Nobuhara published application discloses various embodiments of optical modules that include a ferrule assembly 16 and a planar lightwave circuit (PLC) 4 formed in a silicon substrate 6. A “bare” optical fiber (page 5, par. 0082) extends from a through hole 20 in the ferrule 16 and lies on a flat, cut portion of the ferrule. In each embodiment, the ferrule 16 is

fixed to the silicon substrate so that the fiber 22 is sandwiched between the ferrule 16 and the silicon substrate 6 (*see, e.g.*, FIGS. 2 and 3). Although the Office action acknowledged that the Nobuhara published application does not disclose a Bragg diffraction grating formed in the protruding part of the optical fiber, the Office action alleged that it would have been obvious to include such a grating in view of the Kato et al. patent.

Applicant respectfully submits that there would have been no motivation to combine the disclosures of the Nobuhara application and the Kato et al. patent for the reasons previously set forth in the Preliminary Amendment that accompanied the Request for Continued Examination (RCE).

Furthermore, even if the disclosures of the Nobuhara et al. application and the Kato et al. patent were somehow combined, that would not result in the claimed subject matter. In particular, there is no disclosure, and there would have been no suggestion, of forming the Bragg diffraction grating in the protruding part of the optical fiber after securing the optical fiber as recited in claims 1, 10 and 12.

In contrast, according to the structure disclosed by the Kato et al. patent, the fiber would need to be provided with the Bragg grating before the fiber is inserted into the ferrule. That is because the Bragg grating is near the front end of the fiber. As explained by the Kato et al. patent, a Bragg grating is formed in a predetermined position in the core apart from the tip of the fiber 22 (col. 3, lines 21-22) and then the grating fiber is inserted into a center bore of the ferule 28 (col. 3, lines 39-40). There is simply no suggestion of forming the Bragg grating after securing the optical fiber, as recited in the pending claims.

At least for the foregoing reasons, the pending claims are patentable over the cited references.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or

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other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: 4/6/06

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